

**SOUTHWEST FISHERIES SCIENCE CENTER**  
**FOURTH QUARTER REPORT-FY 2003**  
**For the period July 1, 2003 through September 30, 2003**

**Submitted by:** Norman Bartoo, Acting Division Director, Fisheries Resources Division

**Title of accomplishment or milestone:** April 2003 sardine EPM cruise

**Current status:** Completed

**Background information:** The Fisheries Resources Division had planned a two ship survey of the southern California sardine spawning area to collect the data necessary to complete an Daily Egg Production Method (DEPM) estimate of the sardine population. The survey was to be completed in conjunction with the spring CalCOFI cruise. The SIO vessel, R/V *Roger Revelle* was to complete the southern half of the CalCOFI survey pattern and the R/V *David Starr Jordan* was to complete line in between the normal CalCOFI lines and the normal CalCOFI line on the northern half of the pattern. Both ships would run the Continuous Underway Fish Eggs Sampler (CUFES) on all lines. In addition to doing the full suite of CalCOFI sampling on all CalCOFI stations the *David Starr Jordan* would collect pair-ovet sample in areas where sardine eggs were being collected in the CUFES. At the end of the regular pattern both ships would run a course on the outside perimeter of the pattern with the Acoustic Doppler Current Profile and CTD s to attempt to determine flow in and out of the pattern.

**Purpose of activity:** The main purpose of the activity was to collect the data necessary to complete a DEPM of the sardine population in southern California area. The cruise also provide data for the routine monitoring of the California Current oceanographic conditions and ichthyoplankton. Also the cruises attempted to measure the flow into and out of the normal CalCOFI survey area.

**Description of accomplishment and significant results:** On the April cruise we completed 94 bongo tow, 192 pair-ovet tows, 94 Manta tows, 1287 CUFES samples and 139 CTD s. In addition to these samples collected, ADCP data was collected over the entire pattern with both ships and acoustic survey data was collected by the *David Starr Jordan*. This data will be added to the CalCOFI 52 year times series. Sardine spawning was found over the entire pattern from San Diego to San Francisco. The largest number of sardine eggs were found between Point Conception and Monterey Bay.

**Significance of accomplishment:** The data collected on this cruise will be used to produce a sardine biomass estimate for 2003. The estimate will be provided to the Pacific Fisheries Management Council and the California Department of Fish and Game to establish the sardine quota for the following year. This data will also enhance our knowledge of the California Current ecosystem.

**Problems:** None

**Contact:** Richard Charter (858) 546-7157